

ON THE UNREALITY
OF WORDS TO THE BLIND

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INTRODUCTION

In discussing reading readiness, Tinker (4) states that "only when printed symbols stand for words used meaningfully in his own speech is the child ready to read successfully." Inability to gain realistic meanings for words symbolizing objects or concepts not directly accessible through auditory or tactual channels may impede learning reading for blind children. The only empirical evidence available concerning realism of verbal concepts used by blind children is contained in a study made by Cutsforth (1) three decades ago.

In this study, Cutsforth, using a form of controlled association, required blind children to respond to a list of stimulus words. He found that 58% of the responses of a group of twenty-six children described visual attributes of the stimulus word. A large number of the visual attributes mentioned were erroneous. In discussing these findings elsewhere (2), Cutsforth says, "A predisposition toward the unwarranted use of meaningless visual terminology demonstrates a strong tendency toward unreality in which valid relationships are utterly disregarded. The inevitable result is that nothing but incoherent and loose thinking is possible. Intellectually, the child is organized without reference either to himself or to his own experiential world. The seeing world with its visual concepts and values becomes the flimsy gossamer web out of which his intellectual fabric must be woven." Cutsforth lays most of the responsibility for this problem at the feet of educators of the blind.

If Cutsforth's findings are valid, the implications of verbal unrealism for reading of blind children should be thoroughly investigated. Since these findings are based on a small number of children, and since educational methods may have changed in the past thirty years, it appeared advisable to reconfirm Cutsforth's findings. This paper is a description of the outcome of that effort.

PROCEDURE

The procedure followed was that described by Cutsforth (1). Individual children were required to respond orally to thirty-nine stimulus words (Table 1) orally presented by the experimenter. A preliminary practice with ten obviously non-visual words was given. The instructions for controlled association were as follows: "There are lots of things you can say about everything. A man is tall or short, fat or slim, kind or mean. What would you say about _____?"

In order to determine if the controlled association method significantly affected the outcome, the study was replicated using a free association technique. Here the instructions were: "There are lots of things you can say about everything. Now, when I say a word to you, I want you to say the first thing that pops into your mind."

Results for both methods were tabulated and two experimenters independently judged the number of visual responses given to each stimulus word. Perfect agreement on number of visual responses was obtained for 90% of the stimulus words. Differences among judgments for the remaining 10% were quite small.

The controlled association group included 8 boys and 8 girls who were totally blind or had light perception only. Twelve were blind from birth. Median grade for the group was 6 (range grades 4-9), and median age was 13 years, 10 months (range 9-16 years). The free association group included 18 boys and 21 girls who were totally blind or had light perception only. The majority of these were blind from birth. Median grade for this group was 7 (range grades 4-12), and median age was 14 years 1 month (range 9-20 years).

Table 1

Comparison of Proportions of Visual Responses Given to 39 Stimulus Words by Cutsforth's Group, and the Controlled and Free Association Groups of the Present Study.

<u>Word Stimulus</u>	<u>Percent of Visual Responses for Groups</u>		
	<u>Cutsforth</u>	<u>Controlled</u>	<u>Free</u>
moon	.92	.44	.18
Indian	.91	.31	.13
handkerchief	.32	.25	.03
snow	.62	.33	.18
grass	.85	.71	.36
paper	.42	.06	.05
sky	.77	.53	.42
apple	.50	.17	.01
crow	.52	.20	.08
lemon	.15	0	.03
rose	.54	.28	.21
chalk	.81	.38	.15
violet	.70	.29	.18
pepper	.35	.06	.05
orange	.12	.06	.13
lily	.60	.13	.13
wool	.19	.03	.03
ivory	.30	0	.03
butter	.31	.06	.03
brick	.27	0	0
night	.96	.81	.37
carrot	.35	0	.10
cotton	.19	.11	.05
gold	.57	.20	.13
ink	.77	.25	.21
milk	.62	.06	.15
canary	.33	.20	.05
coal	.77	.47	.15
pumpkin	.36	.07	.08
robin	.54	.13	.08
tree	.31	.06	.08
blood	.85	.60	.28
brass	.25	.15	.05
star	.72	.44	.33
lamp	.77	.80	.54
plaster	.29	.03	0
tar	.62	.31	.13
tomato	.44	.19	.05
cherry	.63	.25	.13

Table 2

Frequency Distributions for Proportions of Visual Responses Given to 39 Stimulus Words by Three Groups.

Percent of Visual Response	GROUPS		
	Guthforth's N=26	Controlled Association N=16	Free Association N=39
0-5		6	13
6-10		7	5
11-15	2	4	2
16-20	2	5	5
21-25	1	3	1
26-30	3	2	1
31-35	6	3	1
36-40	1	1	2
41-45	2	2	1
46-50	1	1	
51-55	3	1	
56-60	2	1	
61-65	4		1
66-70	1		
71-75	1	1	
76-80	4	2	
81-85	3		
86-90			
91-95	2		
96-100	1		

RESULTS:

Table 1 gives the proportion of visual responses given to stimulus words for Cutsforth's group and the controlled and free association groups of the present study. Inspection reveals that the proportions of visual responses for both groups of the present study are much lower than those obtained by Cutsforth. Exceptions occur for several words such as grass, night, blood, and lamp. It is suggested that cultural verbal stereotypes such as blood-red or lamp-light may influence responses to these words. Proportions of visual responses for both groups of the present study appear quite similar for most words, however, for some words, the controlled association method appears to elicit more visual responses.

(Insert Table 1)

An over-all test was made to determine if the apparent differences among the three groups are real or the result of sampling error. A frequency distribution of proportions of visual responses to all stimulus words was made. These data are presented in Table 2. Inspection of this table shows that both groups of the present study had much lower proportions of visual responses over-all. These data were used in a Kruskal-Wallis one-way analysis of variance by ranks (3) to determine whether these samples were from different populations. Results of this test showed no significant differences among the two groups of the study. However, both groups were significantly different from Cutsforth's group in the over-all amount of visual responses made. The level of significance for this conclusion was such that chances for being in error were only 1 in 1000.

(Insert Table 2)

One additional bit of interesting evidence was available. For four words of the study, free associations were available (5) for 1000 sighted children. Proportions of visual responses to these four words made by this sighted group and the three blind groups are included in Table 3. Comparison of these proportions indicates that

Table 3

A comparison of Proportions of Visual Responses to Four Stimulus Words Given by Three Blind Groups and One Sighted Group.

<u>Stimulus Word</u>	GROUPS			
	Sighted	Free Association	Controlled Association	Gatsforth
milk	.09	.15	.06	.62
moon	.43	.18	.44	.92
butter	.12	.03	.06	.31
lamp	.67	.64	.80	.77

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the children studied closely resemble normally sighted children in amount of visual responses to the four stimulus words. However, responses of Galsforth's children to three of the words are quite different from those of the other three groups.

(Insert Table 3)

On the basis of the available evidence, it appears that the blind children studied are not characterized by "verbal unreality" to the extent of Galsforth's children. In fact, evidence from responses to four words indicates that their behavior corresponds to that of normally sighted children. The reasons for these findings are not apparent from the data.

SUMMARY:

Free and controlled associative responses to 39 stimulus words were elicited from groups of 39 and 16 blind children respectively. Proportions of visual responses to these words were compared to those earlier obtained by Galsforth. Significantly fewer visual responses were made by children in this experiment. It was concluded that "verbal unreality" is not a significant problem for the groups studied.

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